

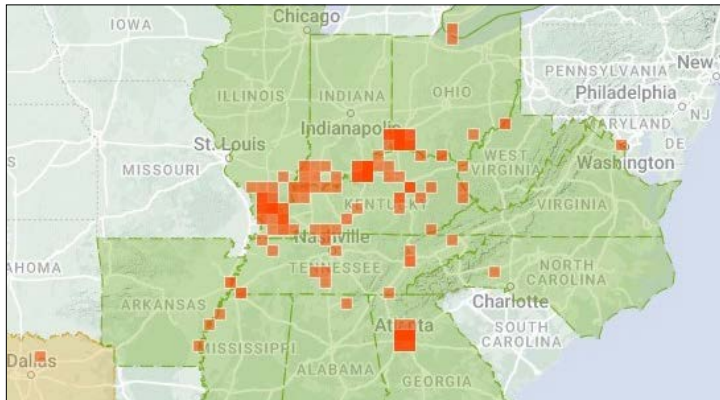


Invasive Plant Alert: Japanese Chaff Flower (*Achryanthes japonica*)

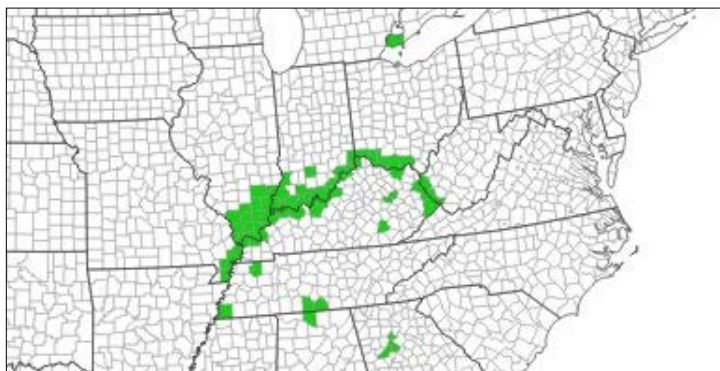
Japanese Chaff flower (*Achryanthes japonica*) is a relatively new invasive plant species in the eastern United States. This perennial herbaceous plant reproduces prolifically and can form dense monoculture stands which outcompete native plants, making it a serious invasive concern. It was detected by the Cumberland Piedmont Network (CUPN) forest monitoring team in the late summer of 2022 at Mammoth Cave National Park (MACA) and Cumberland Gap National Historical Park (CUGA). We want to bring awareness of this up-and-coming invasive species and encourage reporting of observations.

Distribution

Native to eastern Asia, Japanese Chaff Flower was first detected in North America in 1981 along the Big Sandy River in Martin County, Kentucky. Today, it has been documented in 11 states, but this may be an underrepresentation of actual occurrence due to lack of public knowledge of the species. It has been documented in all of the states where CUPN parks are located except South Carolina. Its range has expanded in recent years.



Japanese Chaff Flower distribution map according to iNaturalist, a citizen-science observation application (Source: https://www.inaturalist.org/observations?place_id=97394&subview=map&taxon_id=157962).



Japanese Chaff Flower distribution map according to EDDMapS, an early detection, aggregation mapping system (Source: <https://www.eddmaps.org/distribution/viewmap.cfm?sub=14211>).



Japanese Chaff Flower with its simple, elliptic leaves and opposite leaf arrangement. Photo: Chris Evans, University of Illinois, Bugwood.org.

How to Identify

Japanese Chaff Flower is a 3–5 foot (0.9–1.5 meter) tall herbaceous forb. Distinguishing characteristics include leaves that are opposite in arrangement, elliptic in shape, and have entire margins (smooth edges with no teeth) that are sometimes wavy, an acuminate (pointed) tip, and arching leaf venation. The stems and leaves are green to reddish-purple and may be glabrous or slightly pubescent (hairless or slightly hairy). Nodes, where leaves emerge from the stem, are swollen and especially red in color.



Top, Japanese Chaff Flower appearing inconspicuous without reproductive structures. Bottom left, the inflorescence emerging from the apical bud of the plant with its characteristic "bottle-brush" appearance. Bottom right, a node where leaves and inflorescences emerge, with its characteristic swollen, red appearance. Photos: Chris Evans, University of Illinois, Bugwood.org.

How to Identify (continued)

Flowers form an elongated spike that grows longer with maturity. Flowers lack petals but fruits are relatively large, have two stiff bracts, and lay down against the stem with age. Without the “bottlebrush-looking” spike the plant may appear inconspicuous, so close attention should be paid to vegetative characteristics to ensure correct identification.

Where to Look

Japanese Chaff Flower seeds are distributed by hitching a ride on animals, people, and water, so this plant is often found along hiking or horse trails and waterways. As a habitat generalist it can be found anywhere, but thrives in partial sun and moist soil environments like riverbanks, bottomland forests, and roadsides. Initial invasion often occurs along these avenues, but it can quickly spread into upland forests.

In Mammoth Cave National Park, Japanese Chaff Flower has been found along the bank of the Green River, and in both Mammoth Cave National Park and Cumberland Gap National Historical Park, it was discovered alongside hiking and horse trails.



Japanese Chaff Flower invasion along a trail. Photo: <https://www.ecoaddendum.org/>.

How to Report

One way to document observations of Japanese Chaff Flower, or other invasive species, is via iNaturalist, a citizen science species reporting and mapping application ([NPS Cumberland Piedmont Network Invasive Species · iNaturalist](#)). The Cumberland Piedmont Network utilizes iNaturalist to aid in detecting new or significant populations of invasives. When observations are posted, park managers will be alerted so they are able to manage the species before it becomes a widespread problem.

If possible, report sightings to CUPN's Early Detection Rapid Response Coordinator Clare Bledsoe (Clare.Bledsoe@nps.gov) so that she may correspond with park managers and the Southeast Invasive Plant Management Team (IPMT) to initiate treatment.



Japanese Chaff Flower population found at Cumberland Gap and posted on iNaturalist from Ewing, VA 24248, USA on August 24, 2022 at 09:48 AM by Clare Bledsoe. Found right off of Ewing Trail (<https://www.inaturalist.org/observations/132137808>).



Japanese Chaff Flower seeds sticking to a dog's fur. Photo: Chris Evans, University of Illinois, [Bugwood.org](#).

Once established, Japanese Chaff Flower has a stubborn root system and is difficult to control, so preventing the spread of seeds and early detection of populations is very important in combatting this new invasive species.

Additional Sources

- Invasive.org: [Japanese chaff flower, *Achyranthes japonica* Caryophyllales: Amaranthaceae \(invasive.org\)](#)
- River to River Cooperative Weed Management Area: [Chaff FactSheet.pdf \(bugwoodcloud.org\)](#)
- Southern Illinois University, University of Kentucky, University of Illinois: [invasive species update chaff flower.pdf \(illinois.edu\)](#)